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"RTO/ISO Credit Principles and Practices"
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Thank you for organizing this technical conference to evaluate how RTO's and ISO's manage credit risks and how those practices can be improved in the future.

I appear before the committee as a 25+ year credit risk professional and member of the IECA who has worked at several companies participating in the RTO/ISO markets. Like my almost 1,000 energy industry colleagues in the IECA, I care passionately about effective credit risk management and contracting and intelligent, cost-effective regulation that increases participation and safety in North American energy markets. I serve on a drafting team for the IECA which will soon publish a white paper addressing best practices for the energy industry with respect to regulatory compliance requirements under Know-Your-Customer ("KYC") and other Anti-Money Laundering ("AML") laws. The IECA is also partnering with the Committee of Chief Risk Officers ("CCRO") to update the CCRO's white paper on best practices for energy credit risk management.

However, my views expressed here are my own; they should not be construed as official statements for any of my past, future or existing clients or employers, the IECA or any of its members. I am not currently engaged by any participants in the RTO/ISO markets.

With regards to the questions of minimum capitalization and KYC compliance standards you have posed to my panel today –

Minimum Capitalization and/or Initial Margin Requirements

Capital is the cushion with which a company may withstand losses or other adverse conditions that draw upon its resources and still be able to fulfill its obligations. It is this capital cushion upon which a market participant must depend if transaction exposures create losses and exceed the collateral posted with the RTO/ISO. Many credit analysts utilize a Merton Model[1] for default probabilities, including those provided by independent NRSRO's to assess the adequacy of this capital cushion. As the capital cushion between the value of a company's assets and its liabilities decreases, the likelihood of default on its obligations and the RTO/ISO's reliance on posted initial and variation margin to avoid losses increases.

However, minimum capital alone is not an adequate standard. The following other 2 items must be considered:

An important driver incorporated in the Merton Model for determining default probability is the volatility of asset values. The more volatile the asset values, the more capital is required to avoid potential defaults. So the composition of assets is important. Assets may also be correlated to market conditions which cause the participant's default.

[1] More detail on Robert C. Merton's model for assessing the structural credit risk of a company can be found among many sources including: https://www.investopedia.com/terms/m/mertonmodel.asp.

For instance, a company which meets a minimum capital requirement, but only has the value of FTR positions as its assets, will have no capital if those FTR market prices reverse and go against it. Here the assets are both volatile and perfectly negatively correlated to adverse market conditions. Statistical studies can be used to assess the risk of various asset classes and apply an objective standard for increasing minimum capital requirement accordingly. More volatile assets also require more frequent reassessment.

The third consideration is liquidity. Lack of liquidity is a common source of business failure. As we learned with Metallgesellschaft[2], a company can perfectly hedge to eliminate its long term price risk and yet collapse when the liquidity requirements of its hedges are mismatched to the timing of its potential liabilities. So minimum requirements or initial margin schedules should also consider the availability of committed sources of liquidity to cover potential variation margin calls.

To avoid discriminatory barriers to entry, higher initial margin amounts can be set for participants with higher probabilities of default or high negative correlations of asset values to market distress. Clearing brokers for businesses who speculate in futures markets often increase initial margin requirements by multiples based upon their credit assessment[3]. The RTO/ISO could set similar requirements based upon the 3 aforementioned criteria without penalizing more stable participants with high initial margin costs.

When we consider minimum capital or initial margin requirements, what is adequate? Two important factors come into play here. First, hedging versus speculation. This is not an existential judgement about speculation, rather that commercial risk hedging of physical assets has right-way risk. As losses mount on hedges in the RTO/ISO, the value of the corresponding risk assets (and the resulting capital cushion) should increase. Generators and utilities are the typical commercial risk hedgers. Using a reduced capital or initial margin benefits consumers with lower costs.

Secondly, the markets in which a counterparty is participating, the share of the market in which they are participating, and the absolute size of their participation should be considered when setting minimum capital or initial margin requirements. Potential losses grow with the size of a position, and increased price volatility in the market. [4] This volatility changes over time and needs to be constantly reassessed using implied and/or historical volatility models, stress testing scenarios and mark to market analysis.

A position's share of market matters to its market liquidity and market liquidity matters to minimizing losses upon a forced liquidation of the position. A standard initial margin analysis assumes a 1-3 day holding period in order to fully liquidate a position. If the market share of the position becomes large enough that a longer holding period is necessary to orderly liquidate the positon then initial margin and/or capital requirements must increase accordingly.

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[2] Many case studies looking at the causes and lessons learned of MetallGesellSchaft AG's $2B+ hedging loss and subsequent liquidation exist including: Digenan, John; Felson, Dan; Kelly, Robert; Wiemert, Ann, "MetallGesellSchaft AG: A Case Study": Illinois Institute of Technology, September 2, 2004, downloaded from: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.732.5057&rep=rep1&type=pdf

[3] "Clearing Members may impose more stringent performance bond requirements on their customers than the minimums established by CME Clearing, due to the greater visibility they have into the credit risk profiles of their customers" see Performance Bond Requirements in CME Clearing Risk Management and Financial Safeguards p. 11 downloaded February 15, 2021 from: https://www.cmegroup.com/clearing/files/financialsafeguards.pdf

[4] Again looking at Metallgesellschaft as an example where position size contributed to the size of losses upon liquidation: Digenan, Felson, Kelly and Wiemert, p.2

Know-Your-Customer ("KYC") Analysis and Compliance

A thorough KYC analysis is a critical foundation for analyzing a participant's credit and should include understanding: (1) the Ultimate Beneficial Owner(s) and who actually controls the counterparty, (2) the potential sources of additional capital and liquidity and potential drains of capital and liquidity by affiliated sources, (3) the corporate structure so that affiliated entities cannot act in concert to contravene restrictions; and finally (4) the scope of activities performed by the company and its stakeholders as potential sources or mitigants of risk. For instance, is the market participant a commercial risk hedger or is it an affiliate of a commercial risk hedger? If it is an affiliate, is that affiliate directly tied to the participant's market activity with a guaranty or consolidated financially? If not, the market participant should not be designated as a commercial risk hedger.

Although third party solutions exist with regards to identity verification, relying on a third party vendor requires due diligence and monitoring of the vendor, and is not a safe harbor for Anti-Money Laundering/Anti-Terrorism law violations.[5] The KYC compliance process can be standardized so that a customer portal with a list of requirements can be used to collect the information necessary, which kicks off a workflow ending in approval or denial of the counterparty. Information submitted should be lawfully certified by the signature of a responsible officer. If information is incomplete or more information is necessary[6], the potential customer must provide a contact which RTO/ISO staff can reach to provide such information or answer any questions that arise in the due diligence process. This contact would be informed once the counterparty is approved.

Two things need to be considered in the process:

Any data provided by the market participant, must be secure, particularly any Personally Identifiable Information ("PII")[7] as such is defined in relevant data privacy laws. California has implemented a strong data privacy law[8] and Virginia is considering a similar set of laws[9]. We can expect other states to also consider them in the future. Therefore the information stored should be the minimum amount of PII to

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[5] The Federal Reserve published guidelines for banks it oversees, but the guidance applies to any KYC/AML compliance process: "If not managed effectively, the use of service providers may expose financial institutions to risks that can result in regulatory action, financial loss, litigation, and loss of reputation."- Federal Reserve Board of Governors, "Guidance on Managing Outsourcing Risk", December 5, 2013, pg 1, found here: https://www.federalreserve.gov/supervisionreg/srletters/sr1319.htm

[6] An effective Customer Due Diligence program must evaluate potential counterparty compliance risk levels. Potential counterparties identified as higher compliance risks based upon information provided or online searches may require additional clarifying information prior to approval. Incomplete information disclosure should be considered as an increased compliance risk itself.

[7] Personally identifiable Information (PII) definition can be found here: https://www.gsa.gov/reference/gsa-privacy-program/rules-and-policies-protecting-pii-privacy-act

[8] California Consumer Privacy Act (CCPA) of 2018. Information downloaded from: https://oag.ca.gov/privacy/ccpa#:~:text=The%20California%20Consumer%20Privacy%20Act,rights%20for%20California%20consumers%2C%20including%3A&text=The%20right%20to%20opt%2Dout,of%20their%20personal%20information%3B%20and

[9] Cox, Katie; "Virginia is about to get a major California-style data privacy law", Ars Technica, February 11, 2021, downloaded from: https://arstechnica.com/tech-policy/2021/02/virginia-is-about-to-get-a-major-california-style-data-privacy-law/

verify the ultimate beneficial owner and control of a market participant and the RTO/ISO needs to have strong cybersecurity measures and/or insurance to protect its participants.

Assessing "Red Flags" that arise during the due diligence process is the thorniest of questions for an RTO/ISO which is looking to apply an objective non-discriminatory standard.[10] Usually this analysis in a corporate setting involves senior managers who apply subjective judgement as to the level of potential compliance or reputational risk a company and/or its shareholders are willing to accept. An RTO/ISO's subjectivity can be interpreted as discriminatory. However, some standards for disqualification can be set, for example: (1) listed on a sanctions list such as OFAC's SDN list (2) criminal conviction of a senior officer (CEO, President, COO, CFO) for a crime of moral turpitude or money laundering, (3) threatening an employee of RTO/ISO or other regulatory agency.

I look forward to discussing these issues further with the commission.

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[10] Many sources of advice for identifying Red Flags can be found online including:

(1) Admin, "FINRA's list of AML Red Flags has gone from 25 to 97", RegTech Consulting LLC, May 9, 2019, downloaded from: https://regtechconsulting.net/uncategorized/finras-list-of-aml-red-flags-has-gone-from-25-to-97/
(2) Lowers & Associates, "4 Red Flags of Money Laundering or Terrorist Financing", The Risk Management Blog, May 26, 2015, downloaded from: https://blog.lowersrisk.com/money-laundering-red-flags/
(3) Clarke, Jeremy, "AML Awareness – Red Flags", ICAS, January 17, 2019, downloaded from: https://www.icas.com/professional-resources/anti-money-laundering-resources/latest-developments/aml-awareness-red-flags